<u>CHAPTER IV</u> <u>ENGINEERING DESIGNS</u>

IV.A UNDERGROUND MINE PLAN

This part covers the description of the underground mining operations to be conducted at the Emery Mine.

IV.A.1 UNDERGROUND MINE PLAN

UMC 783.12(a), 783.24(c),783.25(e), 783.25(h), 784.11(a), 784.23(a)

The permit area for the Emery Mine encompasses approximately 5,568 acres. The boundary of the permit area is shown on the Permit Boundaries and Bonding map (Plate III-9). The description of the permit area is as follows:

Township 22 South, Range 6 East

Section 19: S/2NE/4, SE/4, E/2SW/4 Section 20: S/2NE/4, SE/4NW/4, S/2

Section 21: S/2N/2, S/2

Section 22: All

Section 23: SW/4NW/4, W/2SW/4

Section 27: W/2, NE/4

Section 28: All Section 29: All

Section 30: E/2, E/2NW/4, SW/4NW/4, N/2NW/4SW/4, E/2SW/4

Section 31: N/2,W/2SW/4,E/2SE/4,SW/4SE/4

Section 32: All Section 33: W/2NE/4

Mining operations at the Emery Mine are conducted in the IJ Zone utilizing the room and pillar mining method. Plate IV-1 shows the layout, the present mine workings and the projected areas to be mined during the permit term. The existing workings have been marked to show the extent of underground mining operations (1) before August 3, 1977, (2) between August 3, 1977 and May 3, 1978, and (3) after May 3, 1978 up to the permit approval date of January 5, 1986. There are no surface mining operations at the Emery Mine. The projected mine workings are delineated by year for the next five year permit term. Plate IV-2 shows the same plan on a 1"=1000' map to show the extent of the projected life of mine plan in the IJ Zone. The Emery Mine operates under the General Safety Orders, Utah Coal Mines issued by the Industrial Commission of Utah and the applicable regulations issued by the Mine Health and Safety Administration (MSHA).

Access to the underground workings is through the portals shown on Plate II-1. All of the present portals are drift openings at the outcrop of the seam. These openings consist of intake, return, and belt entries. It may be necessary in the future to install ventilation raises in other areas of the property; however, these locations are not known at the present time. Future portals may consist of ramp excavations and shafts to access the coal seam. The new 4 East portal will use a ramp excavation down to the top of the IJ seam. A new set of portals will be installed for the southern main entries of the mine when production from the southern part of the mine warrants it.